REMARKS

Claims 1-12 are pending in the present application, and are rejected.

Claim Rejections - 35 U.S.C. §103(a)

Claims 1-12 are rejected under 35 U.S.C. §103(a) as being unpatentable over Masahide et al. (JP2001-048720) in view of Kim et al. (1995) and Kato et al. (JP 04304887A).

The Examiner admits that Masahide et al. do not teach citral, geraniol or perillaldehyde, and food preparation set forth in claims 10-12 and toiletries set forth in claims 4-6 and medicine set forth in claims 7-9.

The Examiner asserts that Kim et al. teach that essential oils such as citral, geraniol and perillaldehyde have antibacterial activity and these compounds could serve as potential antibacterial agents to inhibit pathogen growth in food as noted in the abstract.

The Examiner asserts that Kato et al. teach that the bactericides are useful in food, pharmaceuticals and cosmetics, as indicated in the abstract.

The Examiner concludes that it would have been obvious to combine citral, geraniol or perillaldehyde to the bacteriostatic composition of Masahide et al. because citral, geraniol and perillaldehyde have an antibacterial activity as taught by Kim et al. The Examiner asserts that one would have been motivated to combine citral, geraniol and perillaldehyde to bacteriostatic agent taught by Masahide et al. in order to achieve an expected additive benefit of formulating cosmetic agent having antibacterial activity.

With regard to food preparation set forth in claims 10-12, the Examiner concludes that such is obvious because one would have been motivated to formulate the obvious combination in food preparation in order to achieve expected antibacterial activity to avoid food contamination which has been a vital concern to the public health as taught by Kim et al.

With regard to medicine and toiletries preparation set forth in claims 4-9, the Examiner concludes that such as obvious because the usefulness of bactericides in pharmaceuticals, cosmetics etc. are well known by Kato et al.

Applicants respectfully disagree with the above rejections and submit that unexpectedly superior and synergistic effects rebut the obviousness rejection. In support of Applicants' assertions, Applicants submit the following points, as well as an Inventor's Declaration under 37 C.F.R. §1.132, which provides additional support

Applicants first characterize the cited references as follows.

JP Patent Application No. 2001-048720 (Masahide et al.) ("Ref 1")

"This humectant and bacteriostatic agent comprises 1,2-octanediol wherein the agent is detergent or non-detergent." (Abstract).

"This humectant and bacteriostatic agent irritates skin less than p-hydroxybenzoic ester so that it can be a mild additive agent for the bear skin compared to p-hydroxybenzoic ester." (Page 2, line 41).

J.Agric. Food Chem. 1995, 43, 2839-2845 (Kim et al.) ("Ref 2")

"Antibacterial activity of 11 essential oil constituents against Escherichia coli, E. coli O157:H7, Salmonella typhimurium, Listeria monocytogenes, and Vibrio vulnificus was tested...." (Abstract).

"[T]hese compounds could serve as potential antibacterial agents to inhibit pathogen growth in food." (Abstract).

"Test compounds. Carvacrol, citral, citronellal, limonene, and perillaldehyde were purchased from..., and eugenol, geraniol, β-ionone, linalool, nerolidol, and α-terpineol were obtained from...." (in the first paragraph of "Materials and methods" of page 2839).

JP Patent No. JP04304887A (Kato et al.) (hereinafter referred to as "Ref 3")

"The subject complex, which is made by binding a lysozyme and a guar gum enzymic hydrolyzate according to aminocarbonyl reaction, having excellent emulsifiability and antimicrobial properties and useful as a polymeric emulsifying agent and an antimicrobial agent for foods, medicines, cosmetics, etc." (Abstract)

"The complex of present invention is soluble in water and has high emulsifiability, and less inhibition of bacteriolytic activity which lysozyme originally has. In addition, the complex has antimicrobial properties against Gram-negative bacteria, which can not be obtained from lysozyme by itself. (Page 4, line 6.)

The Examiner asserts that Ref 1 discloses bacteriostatic compound comprises 1,2-octanediol; and that Ref 2 discloses citral, geraniol, and perillaldehyde have antibacterial activity. The Examiner concludes that one would have been motivated to combine citral, geraniol, and perillaldehyde to bacteriostatic agent disclosed in Ref 1 in order to achieve an unexpected additive benefit of formulating cosmetic agent having antibacterial activity.

The Examiner asserts that Ref 2 discloses that citral, geraniol or perillaldehyde have antibacterial activity, and for years food borne illness resulting from consumption food contaminated with pathogenic bacteria and or their toxins has been vital concern to public health. The Examiner concludes that with regard to food preparation set forth in claims 10-12, one would have been motivated to formulate the obvious combination in food preparation.

The Examiner asserts that Ref 3 discloses the bactericides are useful in food, pharmaceuticals, and cosmetics. With regard to medicine and toiletries preparation set forth in claims 4-9, the Examiner concludes that one would have been motivated to prepare the bacteriostatic agent of Ref 1 as modified by Ref 2 in preparation including food, pharmaceuticals and cosmetics.

The Examiner asserts that one would have been motivated to combine Refs 1 to 3 in order to achieve an expected additive benefit of formulating food or pharmaceuticals and cosmetics having antibacterial activity. However, the present invention has unexpected benefit (synergistic action) by combining 1,2alkaneiol and the particular perfumes, and the combination would not have been predicted by one skilled in the art at the time of the invention.

The reasons are as follows.

Applicants note that the invention is an antiseptic disinfectant enhancing the antibacterial activity that 1,2-alkanediol originally has by combining 1,2-alkanediol with the particular perfumes. Applicants note Figs. 2-10, which are the dual minimum inhibitory concentration diagrams, and Tables 1 and 2, which are their evaluation criterion in the specification of the present invention. Applicants note that Figs 2 to 8 show the combination of 1,2-alkanediol and the particular perfumes has synergic antibacterial effect. Figs 9 to 10 also shows effect resulting from the combination of 1,2-alkanediol and Isobornyl acetate or Guaiac acetate which are perfumes. However, such combinations cause counter action in the antibacterial effect against most strains.

As noted above, it is apparently shown that not all combination of 1,2-alkanediol and perfume can yield synergistic action. Thus, the present invention having synergistic action by combining 1,2-alkanediol and the particularly claimed perfumes can not be assumed by a person in the art.

Applicants note that the Examiner concludes that it is obvious to formulate agent having antibacterial activity by combining two compounds which have antibacterial activity.

In order to prove that it does not always result in synergistic action in the antibacterial effect by combining two compounds having antibacterial activity, and that the advantageous effect of synergistic action can be achieve only by combining 1,2-alkanediol and the particular perfume according to the present invention, Applicants submit herewith a declaration under 37 C.F.R. §1.132. The declaration includes test result of the perfumes (constituents) disclosed in Ref 2.

Applicants first note page 5 of the declaration, which indicates the results of a side by side comparison using perfumes, essential oils or extracts which are all known as having antibacterial activity. (See the following Table 1). The test was carried out by the means of method for the test. The method is indicated in the declaration, which follows the one described in the present specification.

[Table 1] Selected perfume, essential oil or extract for the side by side comparison

	Perfume (constituent)		Essential oil or extract
	Farnesol		Citronella oil
	α-Bisabolol		Eucalyptus oil
*	Limonene		Basil oil
	Camphor		striped bamboo extract
*	Carvacrol		
	Hinokitiol		

*Perfume (constituent) described in the Kim et al. (J. Agric. Food Chem. 1995, 43, 2839-2845) which is cited in the Office Action.

For evaluating their antibacterial activity, the following bacteria are selected, which is all used in the embodiments in the present specification.

[Table 2] List of sample bacterias

1	Pseudomonas aeruginosa
2	Staphylococcus aureus
3	Candida albicans
4	Aspergillus niger

The result is in the following Table 3 which is the same shown as Table 11 in the declaration.

○: There is synergistic action in the antibacterial effect.
△: There is additive action in the antibacterial effect.
×: There is counteraction in the antibacterial effect.

[Table 3]

Samples	Fig.	P.aeruginosa	S.aureus	C.albicans	A.niger
Farnesol	1	×	×	×	×
α-Bisabolol	2	×	×	×	×
Limonene	3	×	×	×	×
Camphor	4	×	×	×	×
Carvacrol	5	△	×	○	×
Hinokitiol	6	×	×	×	×
Citronella oil	7	×	×	×	△
Eucalyptus oil	8	×	×	×	×
Basil oil	9	×	×	△	△
Striped bamboo extract	10	×	×	△	×

In the above-test, all tested perfumes, essential oils or extracts except for Carvacrol showed counteraction or additive action against Gram-negative bacteria, Gram-positive bacteria, yeast and Fungus, when the samples were combined with 1,2-octanediol. As for Carvacrol, it shows counteraction against S.aureus and A.niger, and additive action against P.aeruginosa.

Finally, by comparing the examples in the present specification of this case with the test result on this declaration, Applicants conclude that only particular perfumes can enhance antibacterial activity that 1,2-alkanediol originally has against a broad range of strains, thus only particular perfumes such as those indicated in the claims 1-12 according to the present invention show synergistic action with 1,2-alkanediol.

In conclusion, such synergistic effort obtained from combinations of such particular perfumes and 1,2 alkanediol is unexpected, and therefore would not have been assumed or expected by person in the art.

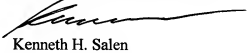
In view of the aforementioned remarks, Applicants submit that that the claims are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP



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Enclosure(s): Declaration under 37 C.F.R. §1.132